Introduction

Installation Overview

Rich Andrews

April 8 - 9, 2003

Overview Outline

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- Comment on January Shutdown
- Major Goals for '03 & '04 Shutdown
- Lambertson Installation Plan
- Resource Planning
- Pre-Target and Target Halls
- Absorber and MINOS
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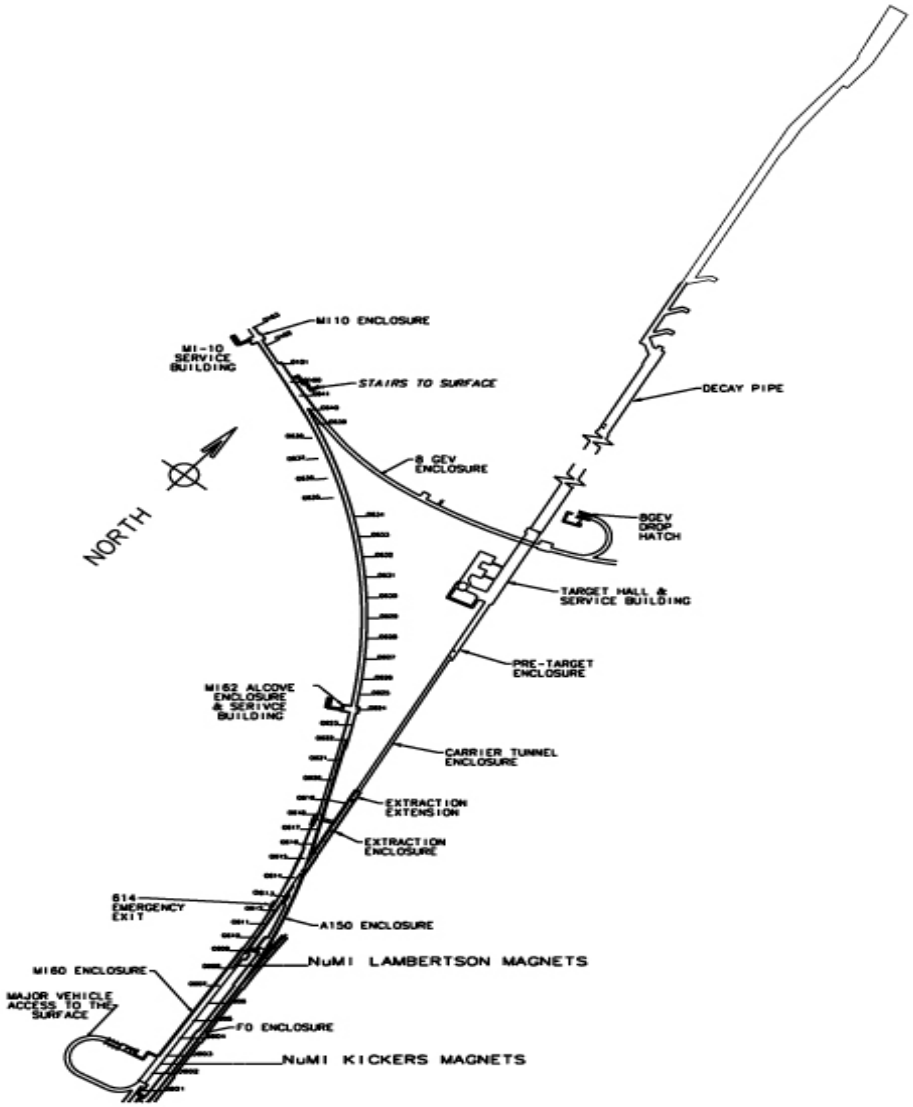
- This presentation will highlight the discussions to follow.
- Intention is to give a broad brush look at all the topics of interest
- In some cases special concerns will be addressed in this presentation.

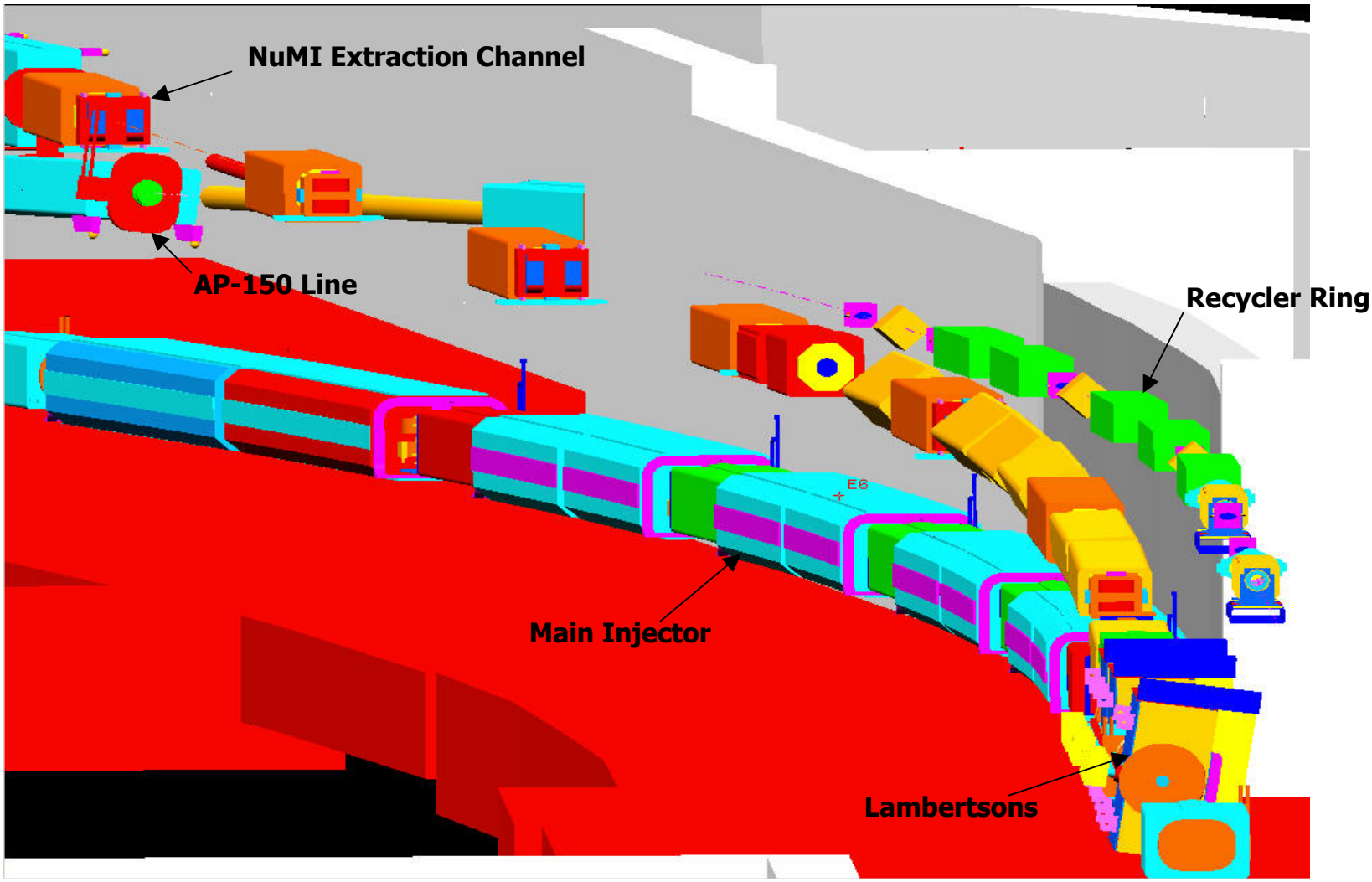
Recommendations from Dec. Director's Review

No	Responsible	Recommendation	Status - April 3, 2003
1	R. Andrews	Revise the Installation Coordination plan to define the mechanism & responsibilities for drafting contract specifications.	**Complete.** The plan has been updated.
2	Ducar	The list of Davis Bacon exempt tasks should be finalized and submitted to DOE for approval by March 31, 2003.	The Davis-Bacon determination document was submitted to Business Services Section on March 31, 2003.
3	Baller	The committee supports the plan to install Lambertson magnets in the summer 2003 shutdown, and encourages the project to get agreement from BD management as soon as possible	Beams Division management has decided to delay installation of the Lambertson magnets to the Summer 2004 shutdown.
4	R. Andrews Childress	The committee would encourage the project to have the magnets in close proximity to the Recycler capable of being powered at the end of the 2003 summer shutdown (without water cooling would be acceptable) so that the magnets could be ramped to allow measurements of their impact on the Recycler	We plan to have all magnets ready for intermittent testing at the end of the summer 2003 shutdown.
5	M. Andrews	We recommend that the project review the charge to the NuMI safety review committee	The role of the NuMI safety review committee differs from safety review committees on other projects. Beams Division management is considering changes to the committee structure.
6	Grossman	The installation plans presented were based on the assumption that, following removal of the shield wall, access would be allowed from the midpoint of the carrier tunnel to the target hall during Main Injector operations. Calculations supporting this scenario are under preparation/review. This effort should be completed and the project should obtain ES&H Section approval.	**Complete.** The effort has been completed and a document, "MARS Simulation of MI Worst Case Accident Dose Rates in NuMI Carrier Tunnel", produced. It has been reviewed and approved by the ES&H Section.
7	Pushka	The dependence on cranes during the installation activity should warrant the investigation of preemptive maintenance and possible repair procedures (spare parts) to minimize downtime. This should pertain to the MINOS cranes as well.	**Complete.** The NuMI cranes are new and are rated for service exceeding their planned use. In the unlikely event the crane fails to operate during installation, we anticipate no more than a 1 week delay for repair. We deem the schedule risk minimal.
8	Bock +	Director's office demarcation of the PPD/BD boundary in the final NuMI facility	The basic plan is in place. Details are being worked out between NuMI/BD/PPD.

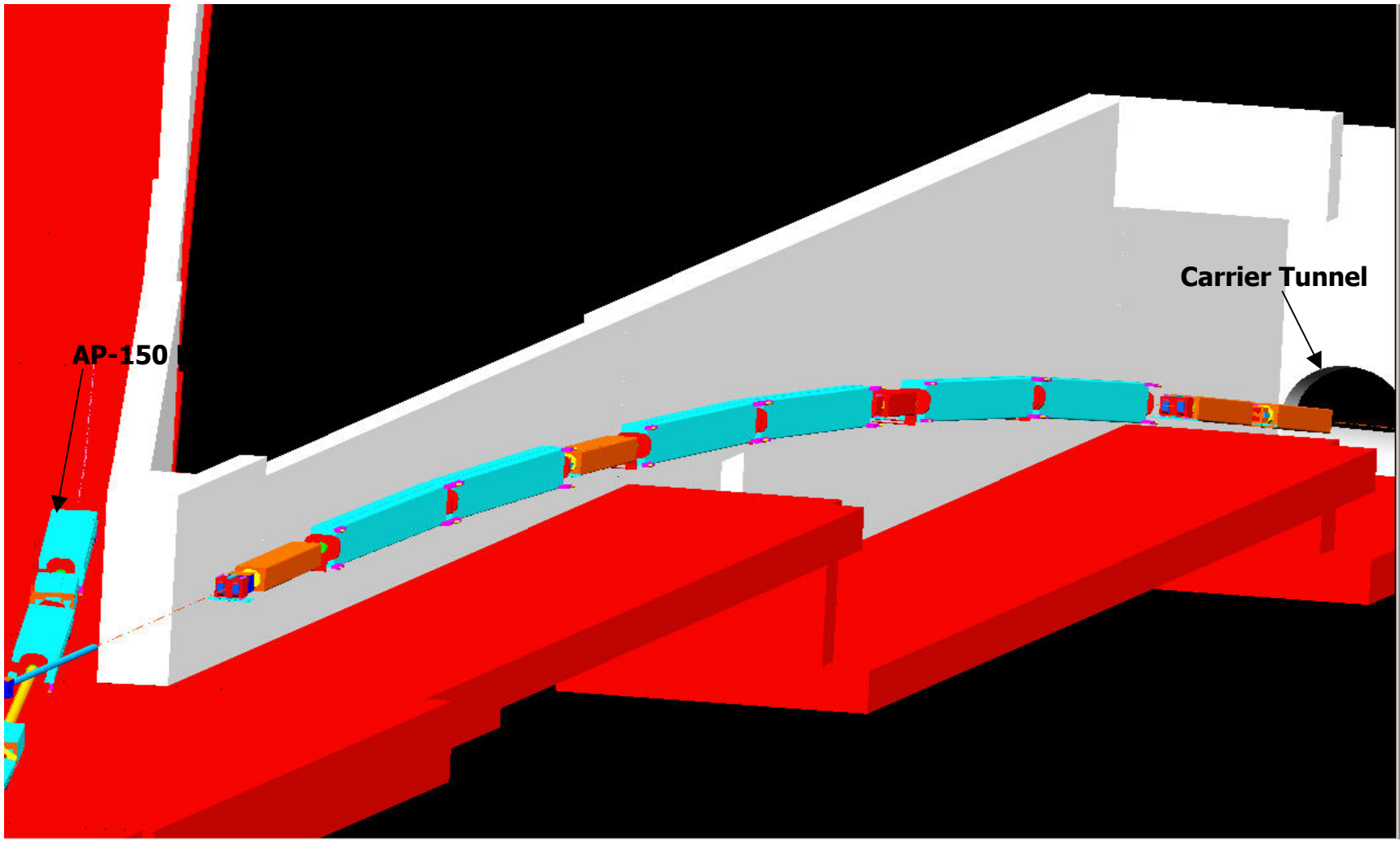
Overview of Installation Areas



Extraction from MI (Shutdown Work)



NuMI Stub (Shutdown Work)



Comments on January Shutdown

- Shutdown for the removal of C-0 Lambertsons
- NuMI took advantage of this time to: a) get some very important tasks completed, and b) demonstrate ability to organize and work in this highly structured environment.
- Detailed discussions by Rick Ford
- Went very well. Planning and resource allocation adequate for the task
- Some lessons learned: a) structure of planning meetings, and b) review process prior to installation

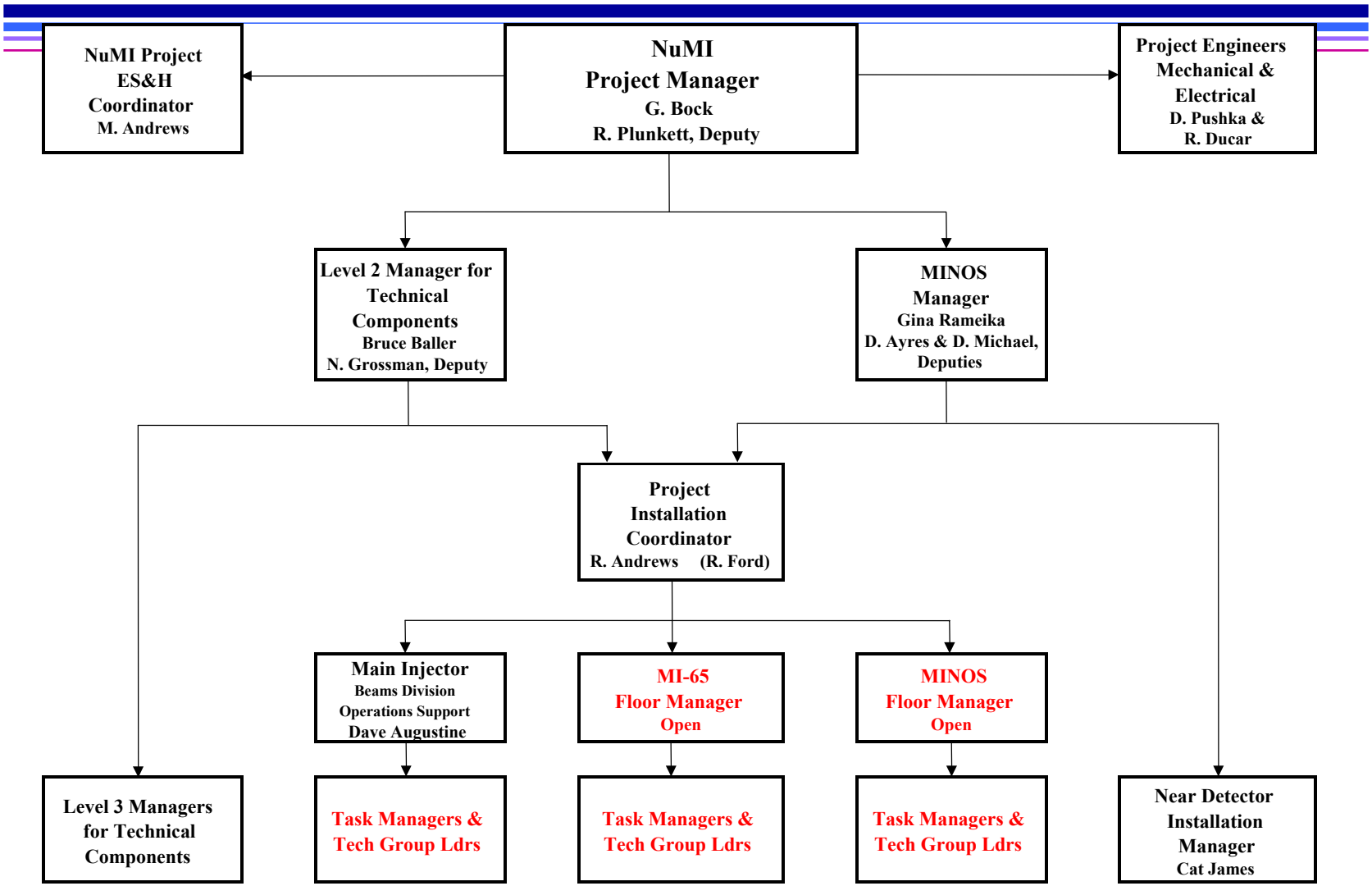
Major Goals for ’03 & ’04 Shutdown

- At the completion of the ’04 Shutdown, we expect to be ready for commissioning of the beam line through the stub.
- ’03 & ’04 Shutdowns are intimately coupled.
- To accomplish this, more than 15 weeks of shutdown required.
- Short Shutdowns: a) we need to do a better job of having task lists on file in MCR, and b) there needs to be a willingness to permit the work (i.e. what about contractors?)
- We believe accomplishing more during the ’03 Shutdown will provide some contingency and allow some testing to proceed.

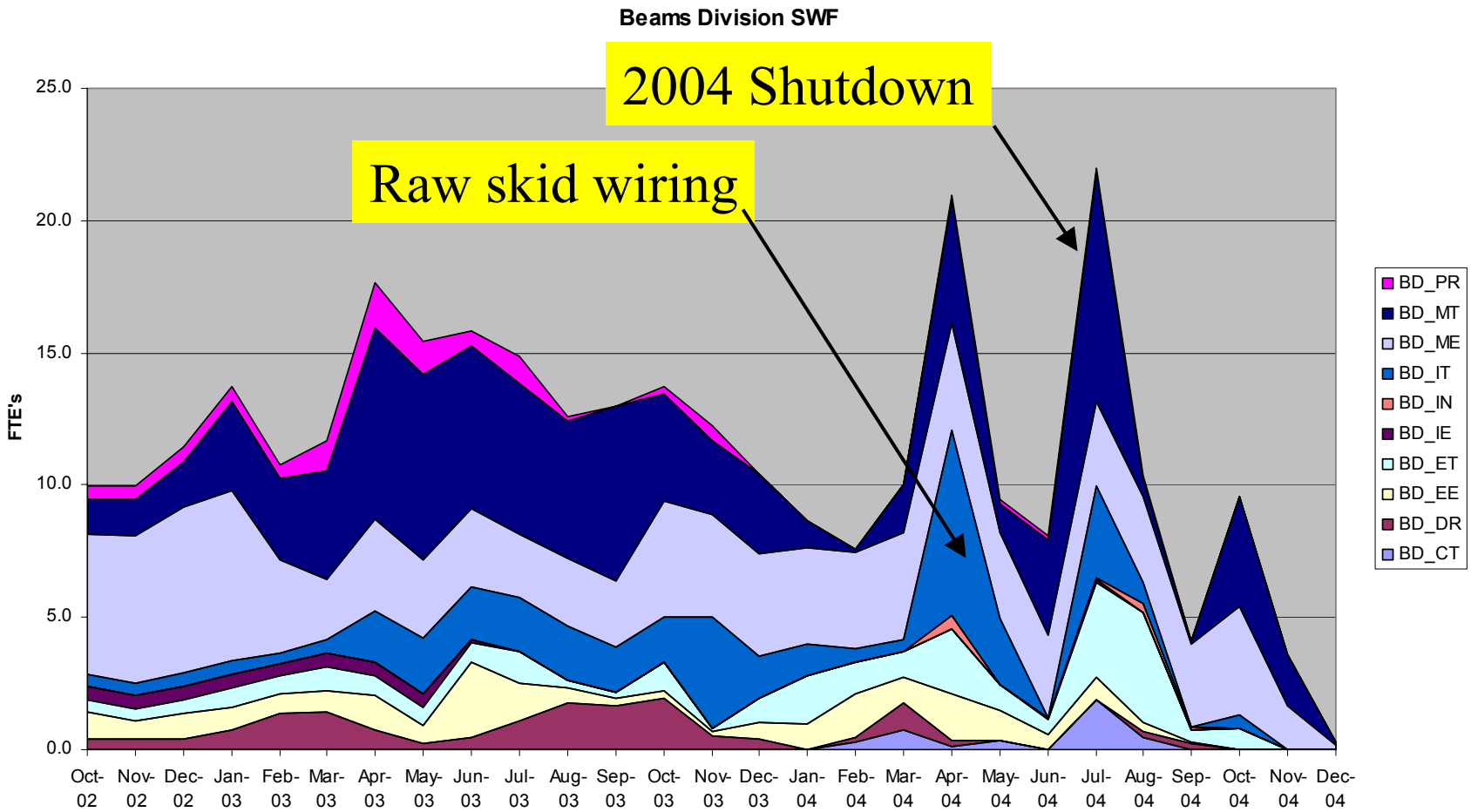
Lambertson Installation Plan

- Our strong preference is to install in the Lambertsons in the '03 Shutdown, and we will proceed with preparations with this goal in mind (however, the detailed schedule we are showing has the task planned for '04)
- Essential to understand and mitigate the effects of the fringe fields on the adjacent accelerators and beam lines (w/ controlled beam tests.)
- We are concerned that an '04 installation may put the program (both NuMI & Collider) at risk if this or other potential problems materialize.

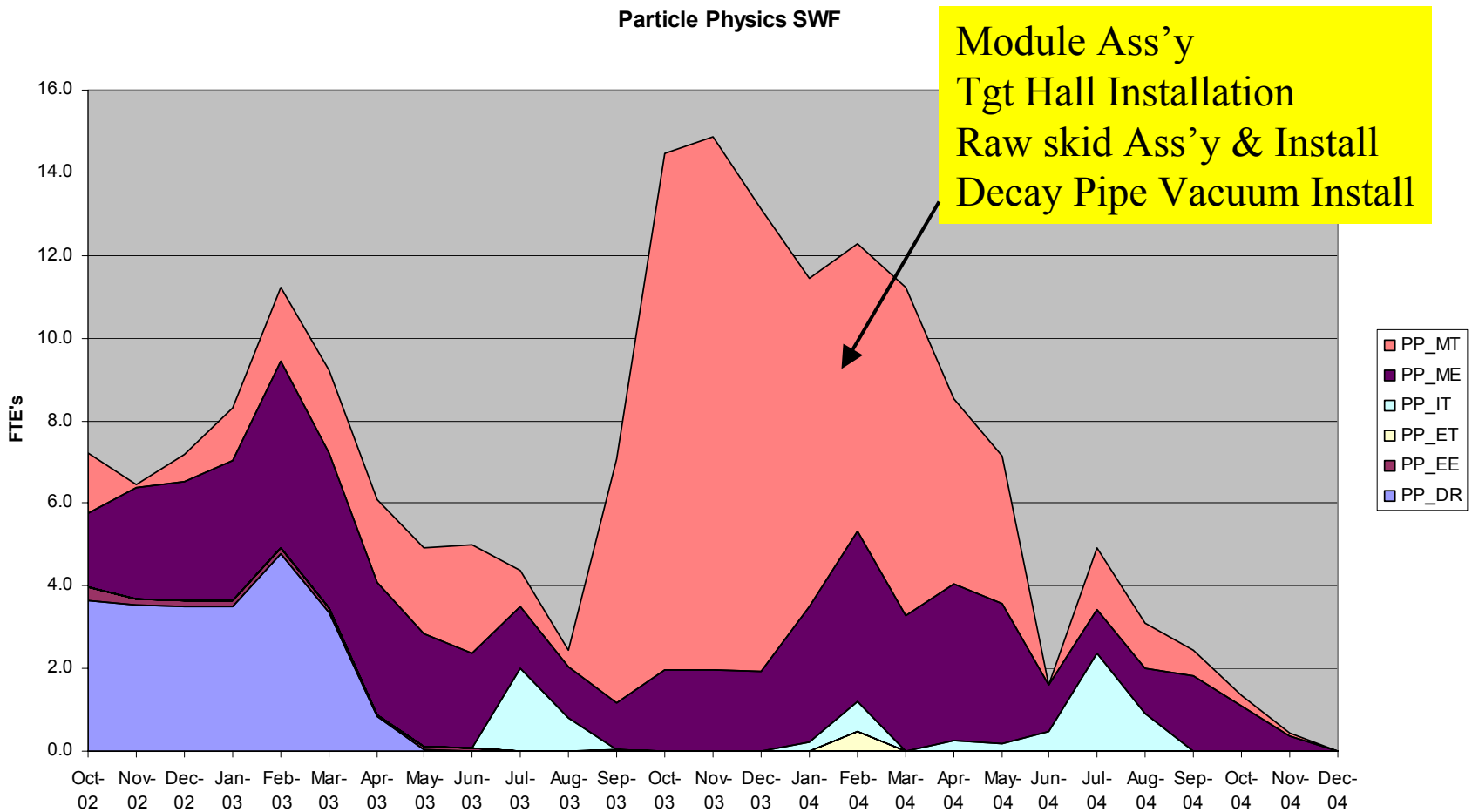
Installation Organization Chart



BD Manpower Requirements



PPD Manpower requirements



Absorber and MINOS

- CR submitted in February changing to 1 shift/day (extends the time span required and saves ~$500K)
- The critical path lies through the MINOS Shaft.
- Moving materials from the service building to the tunnel floor needs to be optimized between the tasks (impacts task durations)
- Issues to examine for the Absorber: a) complete an Installation Specification, b) determine if Fixed Price or T&M
- Engineering and drafting for the Absorber is nearly complete.
- MINOS: continues to make good progress since the last review

Pre-Target & Target Halls

- Pre-Target Hall:
  - Installation activity is in parallel with the larger Target Hall effort.
  - Shared resources are: Shaft crane and target hall crane
  - Dave Pushka will provide details
- Target Hall:
  - Acquisition of steel has been completed - >7000 tons; being cut up & welded @ MAB through July
  - Component acquisition proceeding and is on schedule (horns, target, baffle, positioning modules, carriages,work cell lift table, instrumentation, remote power clamp, etc.)
  - **NEEDS**: Floor Manager now to do more detailed planning

Conclusions

- ICP is a living document and we continue to refer to it for guidance and ensure that the direction is matched to the work
- We must restart the planning meetings for the upcoming shutdowns
- We need to improve our readiness for Short Shutdowns
- We believe it is important to install the Lambertsons during the Summer Shutdown of '03

Conclusions cont.

- Need to get the Floor Managers named so they can participate in the initial planning
- Additional mechanical technician resources will be required from BD and PPD
- For the Pre-Target and Target Halls, we are ready to start the detailed installation planning.
- For the Absorber, we must have an additional engineer assigned to this project (installation specification modified, contract type determined, and work w/ physicists and Floor Manager.)